

# ERASMUS+ BLENDED INTENSIVE PROGRAM

GLOBAL DATA ANALYTICS IMMERSION:  
THEORY AND PRACTICE FOR TOMORROW'S DECISION-MAKERS

Erasmus+ BIP ID:

2022-1-PT01-KA131-HED-000064936-7

Type of Participants (Learners): **Students**

Maximum Number of Participants: **30**

Priorities Addressed: **Digital Transformation**

Main Teaching/Training Language: **English**

**COIMBRA  
BUSINESS  
SCHOOL**

**iscac**  
Politécnico de Coimbra



Erasmus+

## Introduction

The Blended Intensive Program, BIP, offers a short and intensive knowledge enrichment project using innovative ways of learning and teaching. The program entails two distinct phases: virtual and in-person, the latter consisting of a short-term physical mobility to Coimbra, Portugal.

This course sets the stage for a transformative learning journey, cultivating a mindset that embraces the power of data and lays the groundwork for more advanced studies and practical applications in the realm of data analytics. This will allow students to acquire important academic and organizational Data-driven skills.



Coimbra Business School | ISCAC GPS: N 40° 12' 34.50" | W 8° 27' 7.00"

## Where?

- Coimbra, Portugal
- Coimbra Business School | ISCAC  
Polytechnic University of Coimbra

## When?

### Virtual Activities:

May and June/2024

### In-Person Activities:

From July 7th to July 12th, 2024

## Short In-Person Program

**July 7th** - Welcome reception and an "International Flavour Mosaic" – each participant brings something from his country  
**Monday, Tuesday, Thursday and Friday**, 9:00 am to 5:00 pm: intensive course and learning activities  
**Wednesday** – Corporate Site Visit and social program  
**Friday**, 6:00 pm: Closing Ceremony

## How to register?

In **Beneficiary Module Platform** by each HEI International Relations Office  
**Registration ends on April 15th**

## How much will this BIP cost?

### • Program includes:

2 coffee breaks each day and lunch on Monday, Tuesday, Thursday, and Friday

### • Program does not include accommodation

Students should book their accommodation.  
Special prices are available with the code **#ISCACERASMUS2024** by email to [jr.studiossuites@gmail.com](mailto:jr.studiossuites@gmail.com)  
Double room price: 74€/night/room  
**JR Studios**  
<https://www.jrstudiossuites.com/>  
**Archi Suites**  
<https://www.archi-suites.com/>

### Eligibility and Enrolment

- Open to students from any of the partner universities, either in undergraduate or master's programs.
- No prior experience in data analytics is necessary

### Virtual Sessions

- Scheduled for May and June; conducted via Teams.
- Total of 30 hours: 20 hours of synchronous sessions plus 10 hours of autonomous work.
- Focus on foundational concepts of data analytics and Python programming.
- Aim to bring all participants to a common level of understanding, irrespective of their backgrounds.
- Designed to prepare students for the July in-person course in Coimbra.

### In-Person Course

- Takes place in the second week of July: **from July 7th to July 12th, 2024.**
- Emphasizes practical application of skills learned in virtual sessions.

### Methods and Learning Approach

- Project-based learning in both virtual and in-person classes.
- Encourages collaboration among students to solve real-world problems using various data analytics tools.
- Integrates a Job Shadowing experience to provide practical industry insights.
- Fosters problem-solving and critical thinking skills.

### Outcomes and Skills Developed

- Understanding of Data Quality and Comprehension of Ethics in Data.
- Proficiency in Data Analysis and Data Visualization.
- Capability to make Data-driven Decisions.
- Programming skills in Python.

**ECTS: 5**

## Description

Students who wish to delve into the world of data analytics and Python programming have a unique opportunity with this BIP. Beyond immersion, one of the most significant aspects of this program is its openness and inclusivity, welcoming students from diverse backgrounds and not requiring any experience in data analytics. This BIP is open to all individuals enrolled in undergraduate and master's studies at any of our partner universities.

The program unfolds in two distinct phases: virtual and in-person. The virtual sessions are scheduled for May, and June, taking place in Microsoft Teams. These sessions are not just brief overviews; they add up to 30 hours, including 20 hours of synchronous, interactive learning and an additional 10 hours dedicated to autonomous work. The curriculum for these sessions is thoughtfully designed to cover the foundational concepts of data analytics and Python programming. The key objective is to ensure that all participants, regardless of their initial knowledge level, achieve a uniform understanding of the subject matter. These sessions will prepare the students for the more intensive, in-person course scheduled for the second week of July in Coimbra.

The in-person course in July is an immersive experience where students can apply the concepts and skills acquired during the virtual sessions. This blend of virtual and physical learning environments is tailored to provide a holistic educational journey. One of the standout features of this program is its commitment to a project-based learning approach, applied in both the virtual and in-person classes. It encourages students to engage collaboratively in solving practical problems using a variety of data analytics tools, simulating real-world scenarios. This approach not only enhances learning but also fosters essential skills such as problem-solving and critical thinking.

In addition to the technical skills, the program also offers a unique Job Shadowing opportunity. This element is designed to provide students with valuable insights into the practical applications of their learning in a real business environment, bridging the gap between theory and practice.

By the end of the program, students will have gained substantial knowledge and skills in several key areas, including Data Quality, Ethics in Data, Data Analysis, Data Visualization, and Data-driven Decision Making, all resting atop a solid foundation in Python programming. This program is not just about learning concepts; it's about preparing students to apply these concepts effectively in their future careers and academic pursuits.

## Virtual Component Description:

The virtual component of the Blended Intensive Program (BIP) is a course to be held prior to the start of on-site activities, focusing on programming and data analytics fundamentals with Python. It is designed to ensure a common baseline of knowledge and relevant skills to support more advanced data analytics.

This course is an introduction to the Python programming language, encompassing an exploration of data structures, essential libraries, programming fundamentals, and the critical skill of data wrangling. Participants will engage with these topics in a highly interactive and hands-on manner, emphasizing practical applications and real-world scenarios. The curriculum aims to instill a robust understanding of Python's syntax, the manipulation of data structures, and the utilization of fundamental libraries like NumPy and Pandas for efficient data processing. With an emphasis on interactivity, participants will actively apply programming essentials and hone their data wrangling skills, ensuring a dynamic and engaging learning experience that directly translates into practical proficiency.

Python was chosen as it is widely acknowledged as an indispensable tool in any data analyst's toolkit, making it an excellent fit for the BIP in Data Analytics. Renowned for its simplicity, versatility, and robust library support, Python aligns seamlessly with the program's emphasis on foundational understanding and practical applications. In the contemporary landscape, Python has become a must-have, and its recognition as such underscores its significance in equipping participants with essential skills for data analysis within the framework of the BIP. The language's adaptability and popularity further enhance the program's objective of providing a holistic and industry-relevant learning experience.

## Objectives and Description

### Main Objectives

1. Improve decision making capacity
2. Enhance quality and robustness of decisions
3. Gain advanced customer perception
4. Expand process analysis
5. Acquire decision effectiveness and boost efficiency.

### Contents:

- Introduction to Data Analytics and Digital Transformation
- Data Analysis and Visualization Techniques
- Exploratory data analysis
- Data-driven decision
- Advanced Analytics
- Applications for Data Analysis and Digital Transformation

## Higher Education partners

